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10/666,820

09/17/2003

Gennady Sorokopud

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EXAMINER

CHAWAN, SHEELA C

ART UNIT

PAPER NUMBER

2624

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary****Application No.**

10/666,820

**Applicant(s)**

SOROKOPUD, GENNADY

**Examiner**

Sheela C. Chawan

**Art Unit**

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34, 42-44 and 48-50 is/are rejected.
- 7) ☒ Claim(s) 35-41, 45-47 and 51- 53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/17/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

**Preliminary Amendment**

1. Preliminary amendment filed on 8/27/04 has been entered.

**Information Disclosure Statement**

2. The information disclosure statement (IDS) submitted on 9/17/03, the information disclosure statement has being considered by the examiner.

**Drawings**

3. The Examiner has approved drawings filed on 8/30/04.

**Allowable Subject Matter**

4. Claims 35- 41, 45-47 and 51-53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Claim Rejections - 35 USC § 102**

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-34, 42-44, 48-49 and 50, are rejected under 35 U.S.C. 102(e) as being anticipated by Xiong et al., (US. 6,721,315 B1).

As to claim 1, Xiong discloses a packet (note, a burst is a packet of data) classifier comprising:

- a. a data structure for storing classification information, the structure contained in a memory and comprising a graph including a plurality of nodes connected by at least one edge for corresponding to at least one pattern, the graph configured such that movement between the nodes occurs upon at least one packet matching the at least one pattern (note, a burst is a packet of data, column 5, lines 9-41, column 6, lines 46-58); and
- b. a processor, including program means, for applying at least one packet to the data structure to classify the at least one packet (column 5, lines 9-41, column 6, lines 46-58).

As to claims 2, 8 and 14, Xiong discloses the packet classifier of claim 1, wherein the graph is configured accommodate dynamically changing data (column 5, lines 9-41, column 6, lines 46-58).

As to claims 3, 9, 15, 18 and 24, Xiong discloses the packet classifier of claim 1, wherein matching includes at least a partial correspondence between the at least one packet and the at least one pattern (column 5, lines 32-36).

As to claims 4, 10, 16, 19, 25, 30, Xiong discloses the packet classifier of claim 1, wherein each node includes at least one of an incoming edge or an outgoing edge (column 6, lines 10-26, column 5, lines 42-56).

As to claims 5, 42 and 48 Xiong discloses the packet classifier of claim 1, wherein the graph is configured to accommodate state based inspection data (column 5, lines 36- 41).

As to claims 6, 43 and 49, Xiong discloses the packet classifier of claim 1, wherein the graph is configured to accommodate packet aggregation data (column 5, lines 45-50).

Regarding claim 7, argument analogous those presented for claim 1 is applicable to claim 7 as discloses by Xiong searching a memory to locate information in a packet classification system, comprising the steps of:

- a. structuring the information so that it includes at least one graph including a plurality of nodes connected by at least one edge for corresponding to at least one pattern, the at least one graph configured such that movement between the nodes occurs upon at least one packet matching the at least one pattern (column 6, lines 27-45, 65-67, column 7, lines 1-4, fig 2, element 105 ingress edge router, element 115, ingress edge router, element 110 multiple optical router); and
- b. electronically searching the information in the memory to classify the at least one packet, fig 2, element 105 ingress edge router, element 115, ingress edge router, element 110 multiple optical router, column 3, lines 55-67).

As to claim 11, Xiong discloses the method of claim 7, wherein the electronically searching the information in the memory to classify the at least one packet includes analyzing the at least one packet for a determination of its state (column 6, lines 12-26).

As to claim 12, Xiong discloses the method of claim 7, wherein the electronically searching the information in the memory to classify the at least one packet includes analyzing the at least one packet for a determination of at least one aggregation identifier from it (column 6, lines 12-26).

As to claim 13, Xiong discloses a computer memory storage device (fig 14, element 1430), configured to store packet classification data organized in graphs, each graph including a plurality of nodes connected by at least one edge for corresponding to at least one pattern, each graph configured such that movement between the nodes occurs upon at least one packet matching the at least one pattern (column 12, lines 1-9, 60-67, column 15, lines 61-65, fig 14, element 1430).

Regarding claim 17, argument analogous those presented for claim 1 is applicable to claim 17. Regarding determining at least one state as discloses by Xiong the at least one packet, including analyzing at least one previously computed state coupled with the at least one state definition (column 3, lines 55-67).

As to claims 20, 26, 31 and 32, Xiong discloses the method of claim 17, wherein the at least one state definition is embedded inside the at least one pattern.

As to claims 21 and 27, Xiong discloses the method of claim 19, wherein the plurality of state definitions are embedded in the at least one pattern (column 2, lines 4-34).

As to claims 22, 28 and 33, Xiong discloses the method of claim 17, additionally comprising: storing data corresponding to the at least one determined state, such that

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the graph accommodates dynamically changing data (column 5, lines 9-41, column 6, lines 46-58).

As to claim 23, see the rejection of claim 17 above.

As to claim 34, see the rejection of claim 17 above.

As to claim 44, see the rejection of claim 17 above.

As to claim 50, Xiong discloses a packet (note, a burst is a packet of data) classification system comprising:

a network driver for receiving packets (fig 6, column 6, lines 46- 64);

a classification module in communication with the network driver for classifying packets received from the network driver (column 7,lines 65 through column 7, line 23);

an event module in communication with the classification module, the event module for receiving and processing classification data (column 7, lines 24-41);

a signaling module (fig 6, element 515) for determining at least one available engine for receiving classified packets, in communication with the event module (column 7, lines 42- 65); and

a control module (fig 6, element 630) in communication with the signaling module and the classification module for maintaining and providing configuration information and controlling packet classification (column 7, line 66 through column 8, lines 1-15).



***Other prior art cited***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wybenga et al., (US. 20050195812 A1) discloses apparatus and method for performing forwarding table searches using consecutive symbols tables .

Andersson et al., (US. 20050053081 A1) discloses acceleration dependent channel switching in mobile telecommunications.

Byron (US. 20030065809 A1) discloses scheduling downstream transmissions.

Huima (US. 20040015905 A1) discloses method for managing compiled filter code.

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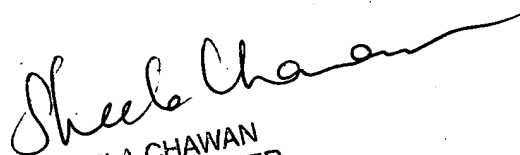
**Contact Information**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela C Chawan whose telephone number is. 571-272-7446. The examiner can normally be reached on Monday - Thursday 7.30 - 6.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sheela Chawan  
Patent Examiner  
Group Art Unit 2624  
Jan 20, 2007

  
SHEELA CHAWAN  
PRIMARY EXAMINER